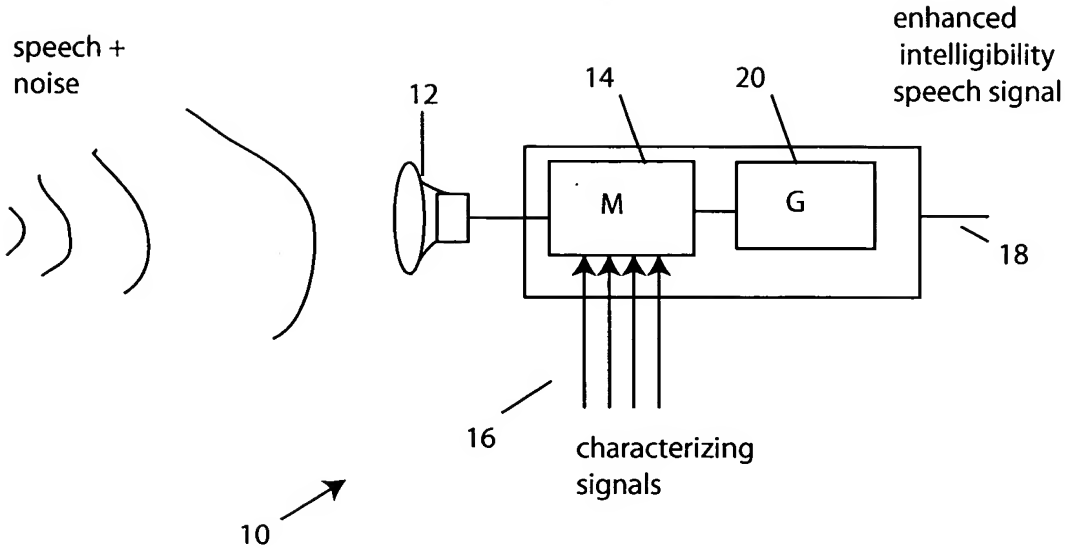


Figure 1

(Figures)

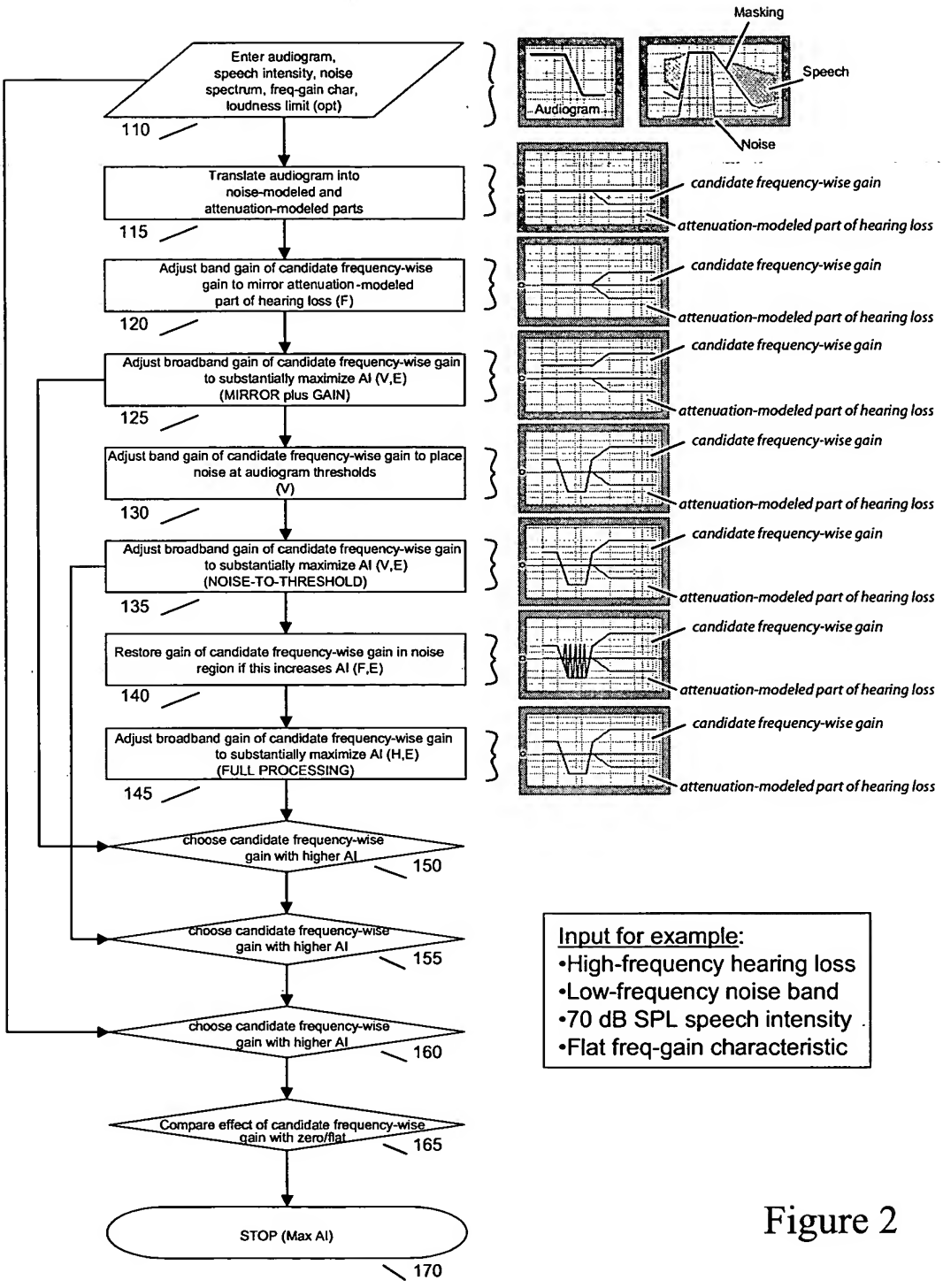
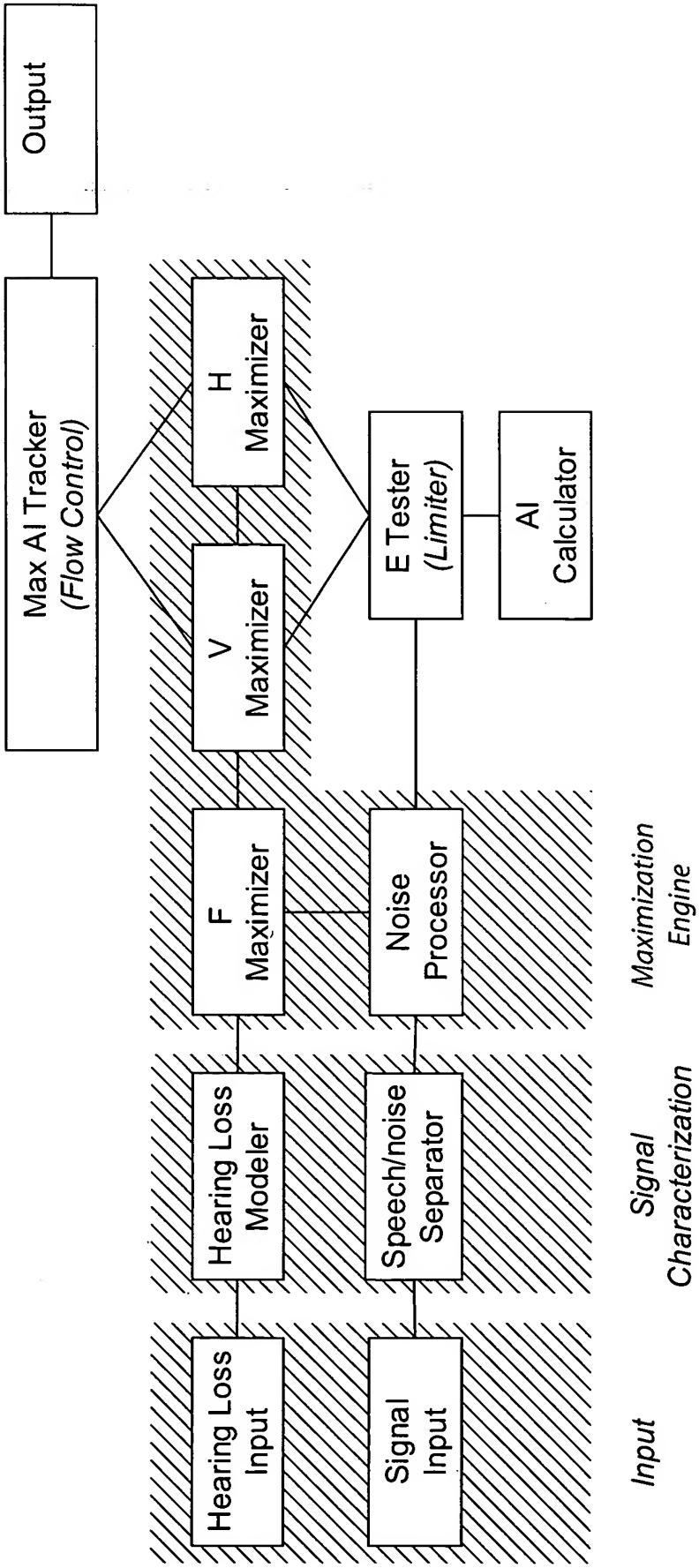

Enter audiogram, speech intensity, noise spectrum, freq-gain char, loudness limit (opt)
110
Translate audiogram into noise-modeled and attenuation-modeled parts
115
Adjust band gain of candidate frequency-wise gain to mirror attenuation-modeled part of hearing loss (F)
120
Adjust broadband gain of candidate frequency-wise gain to substantially maximize AI (V,E) (MIRROR plus GAIN)
125
Adjust band gain of candidate frequency-wise gain to place noise at audiogram thresholds (V)
130
Adjust broadband gain of candidate frequency-wise gain to substantially maximize AI (V,E) (NOISE-TO-THRESHOLD)
135
Restore gain of candidate frequency-wise gain in noise region if this increases AI (F,E)
140
Adjust broadband gain of candidate frequency-wise gain to substantially maximize AI (H,E) (FULL PROCESSING)
145
choose candidate frequency-wise gain with higher AI
150
choose candidate frequency-wise gain with higher AI
155
choose candidate frequency-wise gain with higher AI
160
Compare effect of candidate frequency-wise gain with zero/flat
165
STOP (Max AI)
170
Masking
Audiogram
Speech
Noise
candidate frequency-wise gain
attenuation-modeled part of hearing loss
Input for example:
•High-frequency hearing loss
•Low-frequency noise band
•70 dB SPL speech intensity
•Flat freq-gain characteristic

Figure 2

Figure 3



(Figures)